

Network Software



NASA and other research organizations employ extra-fast supercomputers that generate billions of bytes of data in seconds. This data must be moved by networks from the supercomputers to the workstations where researchers can study it. But until recently the transfer time to move the mountains of data sometimes ran into hours.

Among the solutions to that problem is UltraNet®, a family of products designed to transfer billions of bits per second. Manufactured by Ultra Network Technologies, San Jose, California, UltraNet exemplifies the personnel type of technology transfer, wherein government or contractor employees move to other occupations, bringing with them aerospace technology and skills that can be reapplied in the commercial marketplace.

The central figure in this case is James "Newt" Perdue, a computer engineer at Ames Research Center in the mid-1980s, when Ames was planning to upgrade its supercomputer-based Numerical Aerodynamic Simulation (NAS) program. Although NAS was already employing the fastest supercomputer designed until then, Ames officials saw a need to quadruple computing power — and therefore to upgrade the entire network to support a more advanced NAS.

Perdue and others at Ames worked to define a concept that would solve the problems of networking and access to mass storage systems. Extensive surveys of networking vendors, however, turned up no existing or planned networking products to meet NASA's projected requirements. Perdue took

advantage of the opportunity to fill a need; he resigned from NASA in 1985 and founded Ultra Network Technologies.

Within 14 months, working with the NAS program to refine the requirements, the new company had developed prototype examples of gigabit/second networking technology. Today the company offers a full range of products to speed transfer of information among supercomputers, mainframe servers, workstations and other local area networks. The key technology is intelligent network processing to speed the flow of data without stopping, using special networking hardware and standard protocols.

Now in its seventh year, Ultra Network Technologies has expanded its sales base to more than 100 customers worldwide and is designing a new generation of products for a wider market.

At left, company founder and vice president Newt Purdue is shown with an UltraNet workstation used in a medical application; **below**, an engineer is conducting a pre-shipment check of three UltraNet Model 1000 systems. ●

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